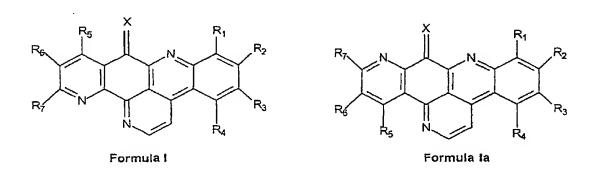
## AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

## LISTING OF CLAIMS:

1. (currently amended) A pharmaceutical composition comprising an effective amount of a compound chosen from the compounds of general formulae I and Ia below for treating, by virtue of their cytotoxic properties, cancerous tumors and their metastases:



## in which:

- X is chosen from oxygen,
- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - R<sub>2</sub> is chosen from hydrogen and halogens,
- $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups  $-NR_{10}R_{11}$  in which  $R_{10}$  and  $R_{11}$  are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl groups and

groups  $-(CH_2)_n-Y$  with Y being chosen from halogens and CN,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  and  $-N(CH_3)_2$  groups and n=1 to 3,

- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

hydrogen or a halogen atom,

 $C_1$ - $C_6$  alkyl, hydroxyl,  $C_1$ - $C_6$  alkoxy,  $(C_1$ - $C_6)$  alkoxy( $C_1$ - $C_6$ ) alkyl,  $(C_1$ - $C_4$ ) alkylcarbonyloxy( $C_1$ - $C_4$ ) alkyl, -CHO, -COOH, -CN, -CO<sub>2</sub>R<sub>14</sub>, -CONHR<sub>14</sub> and -CONR<sub>14</sub>R<sub>15</sub> groups, -NHCOR<sub>14</sub> and -NR<sub>14</sub>R<sub>15</sub> in which R<sub>14</sub> and R<sub>15</sub> are chosen, independently of each other, from hydrogen and ( $C_1$ - $C_6$ ) alkyl, -phenyl-CO-CH<sub>3</sub> and -CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,

-phenyl-CO-CH $_3$  or -phenyl-CO-CH=CH-N(CH $_3$ ) $_2$ , morpholino, nitro or SO $_3$ H groups,

groups:

$$-CH_2 - N - COOR_{16}$$
 ,  $-CH_2 - N - COOR_{16}$  ,  $-CH_2 - N - COOR$ 

 $R_{16}$  and  $R_{17}$  being chosen from  $C_1-C_6$  alkyl groups and Ar being a  $C_6-C_{14}$  aryl group,

and with the exclusion of the compound formula Ia containing the combination X=0 and  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7=H_7$ 

and the addition salts of these compounds with pharmaceutically acceptable acids.

- 2. (currently amended) A pharmaceutical composition comprising an effective amount of a compound chosen from the compounds of formula I in which:
  - X is chosen from oxygen,
- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl,  $-(CH_2)_2-N(CH_3)_2$ , and  $-(CH_2)_2-O-(CH_2)_2-N(CH_3)_2$  groups,
- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

hydrogen or a halogen atom,

 $C_1$ - $C_6$  alkyl, hydroxyl,  $C_1$ - $C_6$  alkoxy, -CHO, -COOH, -CN, -CO $_2$ R $_{14}$ , -CONHR $_{14}$  and -CONR $_{14}$ R $_{15}$  groups, -NHCOR $_{14}$  and -NR $_{14}$ R $_{15}$  groups in which R $_{14}$  and R $_{15}$  are chosen, independently of each other, from hydrogen and ( $C_1$ - $C_6$ ) alkyl and -CH $_2$ -CH $_2$ -N(CH $_3$ ) $_2$  groups,

-phenyl-CO-CH $_3$  or -phenyl-CO-CH=CH-N(CH $_3$ ) $_2$ , morpholino, nitro or SO $_3$ H groups, groups:

 $\mbox{R}_{16}$  and  $\mbox{R}_{17}$  being chosen from  $\mbox{C}_1\mbox{-}\mbox{C}_6$  alkyl groups and Ar being a  $\mbox{C}_6\mbox{-}\mbox{C}_{14}$  aryl group,

and wherein the addition salts of these compounds present are with pharmaceutically acceptable acids in said pharmaceutical composition.

- 3. (previously presented) The pharmaceutical composition as claimed in claim 2, comprising an effective amount of a compound chosen from the compounds of formula I in which:
  - X represents oxygen,
  - $R_1$  is chosen from hydrogen and an amino group,
  - R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, methyl groups,  $(C_1-C_4)$  phenylalkyl,  $-(CH_2)_2-N(CH_3)_2$ ,  $-(CH_2)_2-O-(CH_2)_2-N(CH_3)_2$  groups,
- $R_4$  is chosen from hydrogen, halogens and nitro and amino groups,
  - R<sub>5</sub>, R<sub>6</sub> and R<sub>7</sub> represent a hydrogen,

and the addition salts of these compounds with pharmaceutically acceptable acids.

- 4. (currently amended) The pharmaceutical composition as claimed in claim 1, comprising an effective amount of a compound chosen from the compounds of formulae I and Ia in which:
  - X represents oxygen,
  - R<sub>1</sub> is chosen from hydrogen and an amino group,
  - R<sub>2</sub> is chosen from hydrogen and halogens,
- $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, methyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups  $(CH_2)_n$ -Y with Y being chosen from halogens and groups CN, -CH(O-Et)<sub>2</sub>,  $(C_1-C_6)$  alkoxy, -O- $(CH_2)_2$ -N(CH<sub>3</sub>)<sub>2</sub> and -N(CH<sub>3</sub>)<sub>2</sub> and n = 1 to 3,
- $R_4$  is chosen from hydrogen, halogens, and nitro and amino groups,
- $R_5$  is chosen from a hydrogen, a halogen and a methoxy group,
- $R_6$  and  $R_7$  are chosen from hydrogen and  $C_1$ - $C_6$  alkoxy,  $(C_1$ - $C_6)$  alkoxy  $(C_1$ - $C_6)$  alkyl and -CH<sub>2</sub>OCOCH<sub>3</sub> groups,

with the exclusion of the compound of formula Ia in which  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ — $R_7$ —

and the addition salts of these compounds with pharmaceutically acceptable acids.

5. (previously presented) The composition as claimed in claim 4, in which the compounds are chosen from:

```
one,
     5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
     5-bromo-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
     5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
     5-methyl-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
     5-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
     5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,
     5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-
     one,
     5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de]-
     [1,10]phenanthrolin-9-one,
     5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de]-
     [1,10]phenanthrolin-9-one,
     5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]-
     phenanthrolin-9-one,
     4-bromo-5-amino-9-H-quino[4,3,2-de][1,10]phenanthrolin-9-
     one,
     5-bromo-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,
     5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,
     5-(dimethylamino-2-ethyl)amino-9-H-quino[4,3,2-
     de][1,7]phenanthrolin-9-one,
     5-bis(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-
     de][1,7]phenanthrolin-9-one,
     5-(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-
     de][1,7]phenanthrolin-9-one,
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5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-

4-bromo-5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one, and the addition salts thereof with pharmaceutically acceptable acids.

6. (cancelled)

7. (previously presented) The process according to claim 12, wherein said compound is selected from the group consisting of:

5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-bromo-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-methyl-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de]-

[1,10]phenanthrolin-9-one,

5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de]-

[1,10]phenanthrolin-9-one,

5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]-

phenanthrolin-9-one,

4-bromo-5-amino-9-H-quino[4,3,2-de][1,10]phenanthrolin-9-

one,

5-bromo-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

5-(dimethylamino-2-ethyl)amino-9-H-quino[4,3,2-

de][1,7]phenanthrolin-9-one,

5-bis(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-

de][1,7]phenanthrolin-9-one,

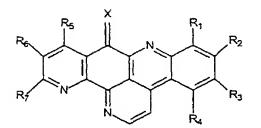
5-(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-

de][1,7]phenanthrolin-9-one,

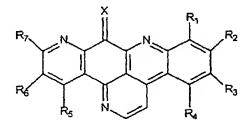
4-bromo-5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

and the addition salts thereof with pharmaceutically acceptable acids.

8. (currently amended) Compounds of general formulae I and Ia



Formula I



Formula la

in which:

- X is chosen from oxygen,
- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_2$  is chosen from hydrogen and halogens,

- R<sub>3</sub> is chosen from halogens, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen, (C<sub>1</sub>-C<sub>4</sub>) alkyl groups, (C<sub>1</sub>-C<sub>4</sub>) phenylalkyl groups and groups -(CH<sub>2</sub>)<sub>n</sub>-Y with Y being chosen from halogens and CN, -CH(O-Et)<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>) alkoxy, -O-(CH<sub>2</sub>)<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> and -N(CH<sub>3</sub>)<sub>2</sub> groups and n = 1 to 3,
- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

hydrogen or a halogen atom,

 $C_1$ - $C_6$  alkyl, hydroxyl,  $C_1$ - $C_6$  alkoxy,  $(C_1$ - $C_6)$  alkoxy( $C_1$ - $C_6$ ) alkyl,  $(C_1$ - $C_4$ ) alkylcarbonyloxy( $C_1$ - $C_4$ ) alkyl, -CHO, -COOH, -CN, -CO $_2$ R $_1$ 4, -CONHR $_1$ 4 and -CONR $_1$ 4R $_1$ 5 groups, -NHCOR $_1$ 4 and -NR $_1$ 4R $_1$ 5 in which R $_1$ 4 and R $_1$ 5 are chosen, independently of each other, from hydrogen and ( $C_1$ - $C_6$ ) alkyl, -phenyl-CO-CH $_3$  and -CH $_2$ -CH $_2$ -N(CH $_3$ ) $_2$  groups,

-phenyl-CO-CH $_3$  or -phenyl-CO-CH=CH-N(CH $_3$ ) $_2$ , morpholino, nitro or SO $_3$ H groups,

groups:

$$-CH_2 - N - COOR_{16}$$
 ,  $-CH_2 - N - COOR_{16}$  ,  $CH_2 - COOR_{17}$   $CH_2 - Ar$ 

 $R_{16}$  and  $R_{17}$  being chosen from  $C_1\text{--}C_6$  alkyl groups and Ar being a  $C_6\text{--}C_{14}$  aryl group,

with the exclusion of the compounds of formula I in which X = 0, and, or  $R_1$ ,  $R_2$ ,  $R_4$ ,  $R_5$ ,  $R_7$  = H and  $R_3$  = OCH<sub>3</sub>,

and with the exclusion of the compound formula Ia in which X = 0 and  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7 = H$ ,

and the addition salts of these compounds with pharmaceutically acceptable acids.

- 9. (currently amended) Compounds as claimed in claim 8, of formula I in which:
  - X is chosen from oxygen,
- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - R<sub>2</sub> is chosen from hydrogen and halogens,
- $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl, - $(CH_2)_2$ -N $(CH_3)_2$ , and - $(CH_2)_2$ -O- $(CH_2)_2$ -N $(CH_3)_2$  groups,
- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from: hydrogen or a halogen atom,

 $C_1-C_6 \ alkyl, \ hydroxyl, \ C_1-C_6 \ alkoxy, \ -CHO,$   $-COOH, \ -CN, \ -CO_2R_{14}, \ -CONHR_{14} \ and \ -CONR_{14}R_{15} \ groups, \ -NHCOR_{14} \ and$   $-NR_{14}R_{15} \ in \ which \ R_{14} \ and \ R_{15} \ are \ chosen, \ independently \ of \ each$  other, from hydrogen and  $(C_1-C_6) \ alkyl \ and \ -CH_2-CH_2-N \ (CH_3)_2 \ groups,$   $-phenyl-CO-CH_3 \ or \ -phenyl-CO-CH=CH-N \ (CH_3)_2,$  morpholino, nitro or SO\_3H groups,

groups:

 $R_{16}$  and  $R_{17}$  being chosen from  $C_1\text{--}C_6$  alkyl groups and Ar being a  $C_6\text{--}C_{14}$  aryl group,

with the exclusion of the compounds in which  $X = O_r$ 

and the addition salts thereof with pharmaceutically acceptable acids.

10. (previously presented) Compounds as claimed in claim 8, which are:

5-(dimethylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-(benzylamino)-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-bromo-9H-quino[4,3,2-de][1,10] phenanthrolin-9-one,

5-amino-9H-quino[4,3,2-de][1,10] phenanthrolin-9-one,

5-methyl-9H-quino[4,3,2-de][1,10] phenanthrolin-9-one,

5-chloro-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-bromo-10-methoxy-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-(dimethylamino-2-ethyl)amino-9H-quino[4,3,2-de][1,10]-phenanthrolin-9-one,

5-bis(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]phenan-throlin-9-one,

5-(2-chloroethyl)amino-9H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

4-bromo-5-amino-9-H-quino[4,3,2-de][1,10]phenanthrolin-9-one,

5-bromo-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

5-amino-9-H-quino[4,3,2-de][1,7] phenanthrolin-9-one,

5-(dimethylamino-2-ethyl)amino-9-H-quino[4,3,2-de]-

[1,7]phenanthrolin-9-one,

5-bis (chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

5-(chloroethylamino-2-ethyl)amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one,

4-bromo-5-amino-9-H-quino[4,3,2-de][1,7]phenanthrolin-9-one, and the addition salts thereof with pharmaceutically acceptable acids.

- 11. (previously presented) A process for preparing a compound of formula Ia, in which:
  - X is chosen from oxygen,
- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen,

independently of each other, from hydrogen and  $(C_1-C_4)$  alkyl groups,

- R<sub>2</sub> is chosen from hydrogen and halogens,
- R<sub>3</sub> is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups  $-NR_{10}R_{11}$  in which  $R_{10}$  and  $R_{11}$  are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups  $-(CH_2)_n-Y$  with Y being chosen from halogens and CN,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  and  $-N(CH_3)_2$  groups and n=1 to 3,
- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from: hydrogen or a halogen atom,

 $C_1-C_6 \ \ alkyl, \ \ hydroxyl, \ \ C_1-C_6 \ \ alkoxy, \ \ (C_1-C_6) \ alkoxy, \ \ (C_1-C_6) \ alkyl, \ \ (C_1-C_4) \ alkylcarbonyloxy(C_1-C_4) \ alkyl, \ \ -CHO,$   $-COOH, \ \ -CN, \ \ -CO_2R_{14}, \ \ -CONHR_{14} \ \ and \ \ -CONR_{14}R_{15} \ \ groups, \ \ -NHCOR_{14} \ \ and$   $-NR_{14}R_{15} \ \ in \ \ which \ \ R_{14} \ \ and \ \ R_{15} \ \ are \ \ chosen, \ \ independently \ \ of \ \ each$   $other, \ \ from \ \ hydrogen \ \ and \ \ (C_1-C_6) \ \ alkyl, \ \ -phenyl-CO-CH_3 \ \ and \ \ -CH_2-CH_2-N(CH_3)_2 \ \ groups,$ 

-phenyl-CO-CH $_3$  or -phenyl-CO-CH=CH-N(CH $_3$ ) $_2$ , morpholino, nitro or SO $_3$ H groups,

groups:

 $R_{16}$  and  $R_{17}$  being chosen from  $C_1 - C_6$  alkyl groups and Ar being a  $C_6 - C_{14}$  aryl group,

which consists in:

a - condensing a chlorobenzoic acid of formula:

$$R_1$$
 $R_2$ 
 $R_3$ 

with a dimethoxyaniline of formula:

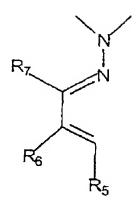
to give a compound of formula IIa:

b - cyclizing the compound of formula IIa to give a compound
of formula:

c - converting the compound into a quinone of formula IIIa:

$$R_1$$
 $R_2$ 
 $R_3$ 

d - reacting the quinone of formula IIIa with an azadiene of formula:



to give a compound of formula IVa:

$$R_7$$
 $R_7$ 
 $R_7$ 
 $R_7$ 
 $R_8$ 
 $R_8$ 
 $R_8$ 
 $R_8$ 

e - reacting the compound of the formula IVa with dimethylformamide diethyl acetal to give the compound of formula Ia,

f - and, optionally, converting the compound thus obtained
into another compound of formula Ia.

- 12. (previously presented) A process for inhibiting a tumor in a patient comprising administering an effective amount of a compound as defined in claim 1 to said patient.
- 13. (previously presented) A process for preparing compounds of general formula I, of formula:

$$R_{6}$$
 $R_{7}$ 
 $R_{7}$ 
 $R_{7}$ 
 $R_{8}$ 
 $R_{1}$ 
 $R_{2}$ 
 $R_{3}$ 

in which:

- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - R<sub>2</sub> is chosen from hydrogen and halogens,
- $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups -NR<sub>10</sub>R<sub>11</sub> in which R<sub>10</sub> and R<sub>11</sub> are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups - $(CH_2)_n$ -Y with Y being chosen from halogens and CN, -CH(O-Et)<sub>2</sub>,  $(C_1-C_6)$  alkoxy, -O- $(CH_2)_2$ -N(CH<sub>3</sub>)<sub>2</sub> groups and -N(CH<sub>3</sub>)<sub>2</sub> and n = 1 to 3,
- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from: hydrogen or a halogen atom,

 $C_1-C_6 \quad \text{alkyl,} \quad \text{hydroxyl,} \quad C_1-C_6 \quad \text{alkoxy,}$   $(C_1-C_6) \, \text{alkoxy} \, (C_1-C_6) \, \text{alkyl,} \qquad (C_1-C_4) \, \text{alkylcarbonyloxy} \, (C_1-C_4) \, \text{alkyl,}$ 

-CHO, -COOH, -CN, -CO $_2$ R $_{14}$ , -CONHR $_{14}$  and -CONR $_{14}$ R $_{15}$  groups, -NHCOR $_{14}$  and -NR $_{14}$ R $_{15}$  in which R $_{14}$  and R $_{15}$  are chosen, independently of each other, from hydrogen and (C $_1$ -C $_6$ ) alkyl, -phenyl-CO-CH $_3$  and -CH $_2$ -CH $_2$ -N(CH $_3$ ) $_2$  groups,

-phenyl-CO-CH $_3$  or -phenyl-CO-CH=CH-N(CH $_3$ ) $_2$ , morpholino, nitro or SO $_3$ H groups,

groups:

 $R_{16}$  and  $R_{17}$  being chosen from  $C_1-C_6$  alkyl groups and Ar being a  $C_6-C_{14}$  aryl group,

with the exclusion of the compounds of formula I in which  $R_1$ ,  $R_2$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$  = H and  $R_3$  = OCH<sub>3</sub>, which consists

a) in reacting a hydroquinone of formula

with a compound of formula

$$R_1$$
 $R_2$ 
 $R_3$ 
 $R_4$ 

in the presence of  $CeCl_3$ ,  $7H_2O$  and ethanol to give a compound of formula II

$$R_{6}$$
 $R_{7}$ 
 $R_{7}$ 

b) in converting the compound of formula II into a compound of formula III in the presence of  $H_2SO_4$  in reflux acetic acid,

c) in reacting the compound of the formula III with  $HC(OC_2H_5)_2N(CH_3)_2$  in DMF at  $120\,^{\circ}C$  to form a compound of formula IV

$$R_{6}$$
 $R_{7}$ 
 $R_{7}$ 

- d) in cyclizing the compound of formula IV to a compound of formula I in the presence of  $NH_4Cl$  and AcOH,
- e) optionally converting the compound of formula I thus obtained into another compound of formula II.
  - 14. (currently amended) A compound of formula

## in which:

- $R_1$  is chosen from hydrogen, halogens, a nitro group and groups -NR<sub>8</sub>R<sub>9</sub> in which R<sub>8</sub> and R<sub>9</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_2$  is chosen from hydrogen and halogens,

- $R_3$  is chosen from halogens,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_6)$  alkoxy groups, a guanidino group, groups  $-NR_{10}R_{11}$  in which  $R_{10}$  and  $R_{11}$  are chosen, independently of each other, from hydrogen,  $(C_1-C_4)$  alkyl groups,  $(C_1-C_4)$  phenylalkyl groups and groups  $-(CH_2)_n-Y$  with Y being chosen from halogens and CN,  $-CH(O-Et)_2$ ,  $(C_1-C_6)$  alkoxy,  $-O-(CH_2)_2-N(CH_3)_2$  and  $-N(CH_3)_2$  groups and n=1 to 3,
- $R_4$  is chosen from hydrogen, halogens, nitro groups and groups -NR<sub>12</sub>R<sub>13</sub> in which R<sub>12</sub> and R<sub>13</sub> are chosen, independently of each other, from hydrogen and (C<sub>1</sub>-C<sub>4</sub>) alkyl groups,
  - $R_5$ ,  $R_6$  and  $R_7$  are chosen from:

hydrogen or a halogen atom,

 $C_1$ - $C_6$  alkyl, hydroxyl,  $C_1$ - $C_6$  alkoxy,  $(C_1$ - $C_6)$  alkoxy( $C_1$ - $C_6$ ) alkyl,  $(C_1$ - $C_4$ ) alkylcarbonyloxy( $C_1$ - $C_4$ ) alkyl, -CHO, -COOH, -CN, -CO<sub>2</sub>R<sub>14</sub>, -CONHR<sub>14</sub> and -CONR<sub>14</sub>R<sub>15</sub> groups, -NHCOR<sub>14</sub> and -NR<sub>14</sub>R<sub>15</sub> in which R<sub>14</sub> and R<sub>15</sub> are chosen, independently of each other, from hydrogen and ( $C_1$ - $C_6$ ) alkyl, -phenyl-CO-CH<sub>3</sub> and -CH<sub>2</sub>-CH<sub>2</sub>-N(CH<sub>3</sub>)<sub>2</sub> groups,

-phenyl-CO-CH $_3$  or -phenyl-CO-CH=CH-N(CH $_3$ ) $_2$ , morpholino, nitro or SO $_3$ H groups,

groups:

 $R_{16}$  and  $R_{17}$  being chosen from  $C_1-C_6$  alkyl groups and Ar being a  $C_6 C_{14}$  aryl group,

with the exclusion of compounds in which either  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$  = H and  $R_2$  = Br, or  $R_1$ ,  $R_2$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$  = H and  $R_3$  = OCH<sub>3</sub>, or  $R_1$ ,  $R_2$ ,  $R_4$ ,  $R_6$ ,  $R_7$  = H and  $R_8$  = OH or OCH<sub>3</sub> or  $R_1$  = NO<sub>2</sub> and  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$  = H,

and the addition salts of these compounds with pharmaceutically acceptable acids.